

## **AMENDMENTS TO THE SPECIFICATION**

Please amend the specification as follows:

**Please replace the first paragraph on page 4 with the following:**

As an example of a driving voltage applied during the light-emitting period, a voltage in a forward direction (forward bias voltage) is applied between the base layer 903 **[[904]]** and the emitter layer **905** such that the base layer 903 **[[904]]** and the collector layer **902** are set at an equal potential of 0 V.

**Please replace the last paragraph on page and continuing onto page 5 with the following:**

During a light-extinct period, a voltage in a reverse direction (reverse bias voltage) is applied between the base layer **903** and the collector layer **902**. This depletes substantially the entire region of the base layer **[[904]]** 903, as shown in the energy-band diagram of FIG. 19, so that the holes confined to the active layer **904** are extracted to the collector layer **902**. If the holes can be extracted from the active layer **904** with sufficiently high efficiency, the concentration of the holes in the active layer **904** is reduced so that the quantity of carriers recombined for light emission is reduced and light emission is suppressed. Since the hole extracting operation is not dependent on the speed of carrier recombination for light emission, light emission can be halted promptly so that high-speed modulation is allowed.

**Please replace the second full paragraph on page 7 with the following:**

To attain the foregoing object, a first semiconductor light-emitting device according to the present invention comprises: first and second semiconductor layers each of a first

conductivity type; a third semiconductor layer of a second conductivity type provided between the first and second semiconductor layers; an active layer provided between the second and third semiconductor layers, the active layer emitting light with charge injected therein from the second and third semiconductor layers; and a graded composition layer provided between the active layer and the third semiconductor layer to have a varying composition which is ~~nearly~~ equal to a composition of the active layer at an interface with the active layer and to a composition of the third semiconductor layer at an interface with the third semiconductor layer.

**Please replace the second paragraph on page 19 with the following:**

The first embodiment features the graded composition layer **104** provided between the base layer **103** and the active layer **105** to have a composition which is ~~nearly~~ equal to the composition of the base layer **103** at the interface with the base layer **103** and to the composition of the active layer **105** at the interface with the active layer **105**. If the film thickness of the graded composition layer **104** is about 5 nm to about 100 nm, the occurrence of an interface barrier can be suppressed. The composition of the graded composition layer **104** may be varied continuously or stepwise. Since light is emitted from the region of the graded composition layer **104** closer to the active layer **105**, it is also possible to regard the region as a part of the active layer **105**.

**Please replace the last paragraph on page 22 with the following:**

As shown in FIG. 2, the graded composition layer **104** is provided between the active layer **105** and the base layer **103** to have a gradually varying composition which is ~~nearly~~ equal to

the composition of the active layer **105** at the interface with the active layer **105** and to the composition of the base layer **103** at the interface with the base layer **103**. As a consequence, the interface barrier between the active layer **105** and the base layer **103** is reduced greatly compared with the semiconductor light-emitting device according to the conventional embodiment shown in FIG. 17. Even with a relatively low reverse voltage, therefore, the holes reaching the interface between the active layer **105** and the graded composition layer **104** swiftly move to the collector layer **103** so that the concentration of holes in the region of the active layer **105** closer to the base layer **103** is reduced significantly. As a result, the quantity of holes accumulated in the whole active layer **105** is also reduced, which achieves a significant reduction in the amount of residual light emitted from the semiconductor light-emitting device during the extinction period.

**Please replace the first full paragraph on page 40 with the following:**

In the fifth embodiment, the impurity concentration in the base layer **504** has been adjusted to about  $1 \times 10^{17} \text{ cm}^{-3}$ , while the impurity concentration in each of the collector layer **502** and the emitter layer **505** has been adjusted to  $1 \times 10^{18} \text{ cm}^{-3}$ .

**Please replace the last paragraph on page 43 and continuing onto page 44 with the following:**

Although the fifth embodiment has used AlGaAs for the emitter layer **505** **[[502]]**, if GaInP is used similarly to the collector layer **502**, the effect of confining carriers to the base layer **504** can be enhanced. Conversely, if AlGaAs is used for the collector layer **502**, the undoped semiconductor layer **503** or the graded composition layer can be formed between the base layer

**504** and the collector layer **502** in an easier fabrication process.